

# Approaches toward stress among International Medical University Students

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**ABSTRACT**

**Background:** Medical education is a highly demanding curriculum which faces long hours of studying. This study aims to identify the most employed coping mechanisms among International Medical Students (IMU) undergraduate medical students. This gives us information on the nature of the coping mechanism (active vs avoidant) and the need for social and psychological intervention, counselling programs, peer and mentor support. **Methods:** A cross sectional study involving 297 participants of International Medical University (IMU) undergraduate medical students was done. Brief Cope Questionnaire was used to determine the coping mechanisms to stress among IMU undergraduate students. We used a validated questionnaire and analyzed the final results using SPSS. **Results:** A total of 297 participants were included in the study. According to the results, the most popular coping mechanisms are emotional support (27%) (OR=0.0006, 95% CI=0.0000 to 0.0101, P < 0.0001), instrumental support (24%) (OR=0.0005, 95% CI=0.0000 to 0.0088, P < 0.0001), positive reframing (24%) (OR=0.0005, 95% CI=0.0000 to 0.0088, P < 0.0001) and acceptance (23%) (OR=0.0005, 95% CI = 0.0000 to 0.0087, P < 0.0001) whereas the least popular methods used are denial, substance use and behavioral disengagement. There is no correlation between age, semester and coping mechanisms. **Conclusion:** Students adopt active coping strategies rather than avoidance. Understanding and getting advice from third parties are crucial for medical students to manage their stress level. Therefore, university administration should take appropriate steps as needed based on the expectations and feedback from students.

**Keywords:** stress, medical students, coping mechanisms, coping methods, medical education.

**1. INTRODUCTION**

Stress is a feeling of emotional or physical tension. There are 2 types of stress, which are the eustress or positive stress and distress which is the negative stress. A healthy amount of manageable stress can lead to increased brain functioning, a boosted immune system and better preparation for future events. On the other hand, distress comes when a person faces continuous challenges without relief or relaxation. As a result, prolonged stress causes

wear and tear on the body physically and mentally. Stress, especially among medical students, is an emerging issue as they are in a highly demanding curriculum which faces long hours of studying and numerous assessments. Previous researchers have found high levels of stress among medical students and the overall prevalence of stress was 41.9% in a Malaysian medical school (Al-Dubai et al., 2011). As a consequence, deterioration of the health of students due to stress may greatly affect their learning ability, academic performance as well as productivity. Therefore, in this study, we will be looking at different stress coping mechanisms among medical students which includes self-distraction, active coping, denial, substance use, use of emotional support, humor, acceptance, religion and self-blame. The purpose of this study is to identify the most common method of coping among medical students at International Medical University (IMU) as well as to prompt students to reflect and identify their most efficient way of coping through completing the questionnaire.

### **Definition of variables**

Stress may be either external with environmental sources or caused by internal perceptions of the individual. The latter form, in turn can produce anxiety, and/or other negative emotions and feelings such as press, pain, sadness, etc., and result in serious psychological disorders such as post-traumatic stress disorder (PTSD) (Tse et al., 2010). Stress could be classified according to the nature of the stressor (physiological, psychological), its influence on individual (positive eustress, negative distress), and the exposure time of stressor (acute or short-term, chronic or long-term) (Shahsavarrani et al., 2015).

## **2. METHODOLOGY**

### **Study setting and participants**

A cross sectional study was conducted among IMU undergraduate medical students including the Bukit Jalil and Seremban campuses. The approximate number of IMU Medical Students is 1293; the margin of error is calculated as 5%. With the confidence level of 95%, the calculated sample size is approximately 297. The sample was selected via random sampling and distributed using google docs online due to the Movement Restriction Order still in force. Informed consent was taken from all participants and their confidentiality was ensured.

*Inclusion criteria:* Undergraduates IMU Medical students

*Exclusion criteria:* Non-medical students, Post-graduate students.

**Study duration:** November 2019 – April 2021.

### **Study tool**

A structured, self-administered questionnaire was used to collect data assessing the stress approaches among IMU students in Malaysia. Brief COPE questionnaire was used to assess the coping mechanisms to stress among undergraduate IMU medical students. There are 30 questions to screen common approaches used to cope with stress such as self-distraction, active coping, denial, substance use, emotional or instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion and self-blame. These coping mechanisms were assessed using a scale of 4 options. The first option would be having not been doing this at all, second option of having been doing this a little bit, third option of having been doing a medium amount and the fourth option is having been doing this a lot. This is to determine which coping mechanism is commonly used among IMU medical students when dealing with a difficult or stressful event. With this, we can see how they would typically respond when confronted with difficult or stressful events in their lives and if knowing their most used coping mechanism would help them cope better in stressful situations in the future.

### **Data processing and analysis**

The data was collected on Microsoft excel sheet and transferred onto SPSS for analysis to determine whether there is a correlation between choice of coping mechanism versus age and semester. The most employed coping mechanism was displayed using a bar chart.

## **3. RESULTS**

Each respondent had multiple choices to pick their most frequently employed method of coping with stress. Participants are given the choice to choose one or more than one method of coping. Based on the bar chart, it is evident that emotional support, instrumental support, positive reframing and acceptance are amongst the most employed coping mechanisms when facing stress.

27% of students seek emotional support (OR=0.0006, 95% CI=0.0000 to 0.0101, P < 0.0001) in the form of comfort and understanding from their friends and family. 24% of students chose instrumental support (OR=0.0005, 95% CI=0.0000 to 0.0088, P < 0.0001) by getting help and advice from other people. 24% chose positive reframing (OR=0.0005, 95% CI=0.0000 to 0.0088, P < 0.0001) by choosing to see the situation in a different light to make it seem more positive and looking for something good in the situation. 23% chose acceptance (OR=0.0005, 95% CI = 0.0000 to 0.0087, P < 0.0001) by accepting the reality of what has happened and learning to live with it. 21% (OR= 0.0005, 95% CI = 0.000 to 0.0076, P < 0.0001) of participants chose to distract themselves by doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. Some turn to work or other activities as a means of distraction. Among the least popular methods are denial, substance use and behavioral disengagement. Denial stood at 5% (OR = 0.0001, 95% CI = 0.0000 to 0.0015, P < 0.0001) in the form of saying "this isn't real" and refusing to believe that a certain event has happened. Substance use was at 7% (OR = 0.0001, 95% CI = 0.0000 to 0.0022, P < 0.0001) in the form of taking alcoholic drinks. Behavioral disengagement was at 6% (OR = 0.0001, 95% CI = 0.0000 to 0.0017, P < 0.0001) in the form of giving up trying to deal with the problem and giving up on the attempt to cope. The stress approach among IMU students in Malaysia are shown in Figure 1.

## Stress Approach among IMU students in Malaysia

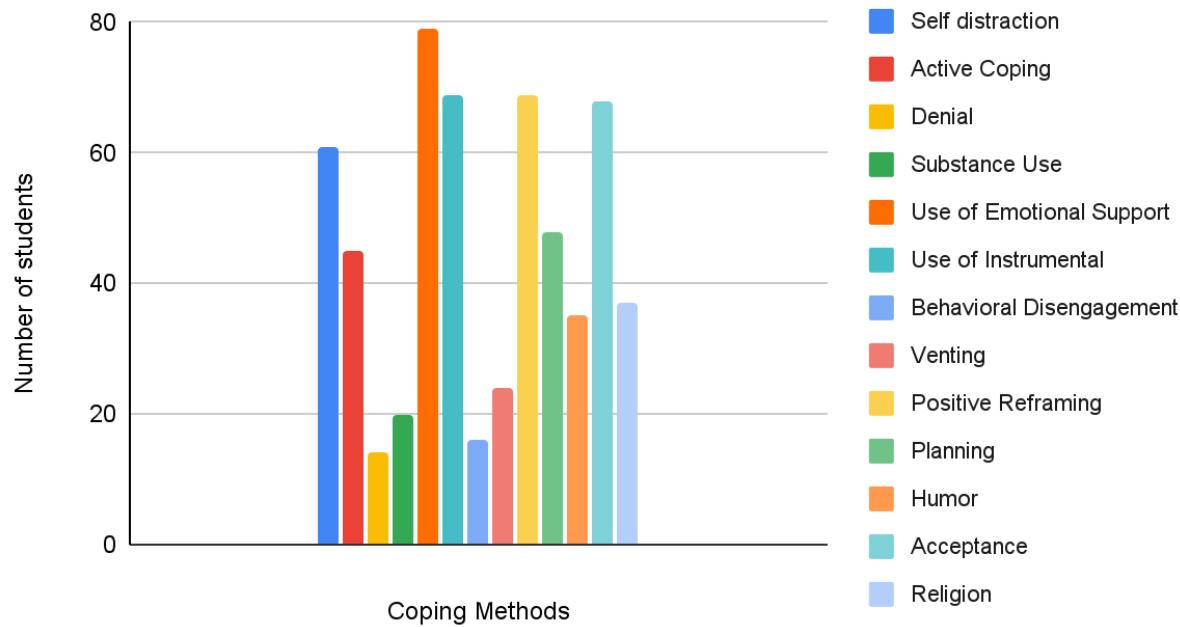


Figure 1 Stress Approach among IMU students in Malaysia

In this research, the p value is >0.05, which is not statistically significant. There appears to be no correlation between age, semester and choice of coping mechanisms. The correlations are shown in Table 1.

Table 1 Correlations between Control Variables and Age and Semester

Control Variables		Age	Semester
Self-Distraction, Active Coping, Denial, Substance Use, Emotional Support, Instrumental Support, Behavioral Disengagement, Venting, Positive Reframing, Planning, Humor, Acceptance & Religion	Age	Correlation	1.000
		Significance (2-tailed)	. <.001
		df	0 273
	Semester	Correlation	.687 1.000
		Significance (2-tailed)	<.001 .
		df	273 0

## 4. DISCUSSION

This study found that students used active coping strategies such as emotional support, instrumental support, positive reframing and acceptance more than avoidant coping strategies such as denial, behavioral disengagement and substance use. However, although most students are using active coping strategies, some are still coping negatively, and it should be a cause for concern. Another study among medical students in Malaysia (Al-Dubai et al., 2011) also revealed similar results, showing that active coping mechanisms are mostly employed however a minority still used avoidant coping strategies. Distress often continues into residency and beyond where it may have adverse effects on the quality of patient care delivered (Faris et al., 2016). Overwhelming academic pressure and a sense of emotional commitment to medicine as a future career result in high intensity of stress and this may lead to decreased life satisfaction, serious thoughts of dropping out and even suicidal thoughts (Faris et al., 2016). These cyclically lead to poorer performance and reduced commitment. Therefore, it is crucial to propose and implement strategies to reduce the incidence of stress among medical students.

Unfortunately, this study failed to explore the sources of stress in the students involved, as that would help us understand the results better and would help us come up with probable solutions. In this study, the students involved did not show any correlation between age, semester and coping mechanism employed. Previous studies demonstrated effective coping strategies in playing a crucial role in managing stressful life events. Coping mechanisms are inclusive of both psychological and behavioral efforts that should be applied daily to minimize stressful events. As a result, it is important to have counselling and strategies to help students cope with stress, as to avoid use of any negative coping mechanisms within students and students should also be advised to seek professional help and counselling whenever faced with any amounts of stress.

Some strategies that can be employed to help students cope with stress are time management workshops, mindfulness practices and relaxation activities. Student-led support programs that are designed to promote the mentorship of juniors by senior students are recommended because they appear to effectively help students to process conflicts, raise self-awareness and manage their stress in a more positive outlook. Peer discussion groups also provide opportunities for students to express and share their feelings. Lifestyle changes such as having a good sleep, healthy balanced diet and exercising regularly at least three times a week needs to be implemented. Although these practices seem simple, they are key in managing stress. Students should also be monitored and followed up to see the effectiveness of the coping strategies advised. Changes and modifications of coping approaches will be tailored to the students' needs from time to time in order to combat stress in the long run. Therefore, medical educators should facilitate and utilize such coping mechanisms and strategies in order to allow a more fruitful and smoother medical school journey for medical students.

### Limitations

This present study has several limitations. The biggest limitation is that this study has been undertaken in only one institution with a sample size of just 297 students. The findings may not fully reveal the situation for medical students elsewhere in Malaysia or internationally.

In this study, not enough socio-demographic statistics of the participants were obtained. Due to the time constraint in submitting this research paper, we were not able to change the questionnaire that was given out already, which had sufficient responses.

Furthermore, this study only highlights how the participants cope with stress, but it does not relate to how the participants perceive stress. In a future study, it would be better to include sources of stress together with which coping mechanism the participants practice.

## 5. CONCLUSION

Medical students experience stress as they try to balance the amount of time studying, clinical practice, social and personal life. It is indeed a struggle faced by most medical students however some cope better than rest when dealing with stress. This study found that students rely more on active coping strategies such as emotional support, instrumental support, positive reframing and acceptance more than avoidant coping strategies such as denial, behavioral disengagement and substance use. IMU students adopt active coping strategies rather than avoidance. It is essential to combat stress by knowing the source of the stressor. Only then, they can seek help, advice and guidance appropriately.

The findings of this research suggest the importance of stress management programs, workshops on stress and effective coping mechanisms through academic years as well as the presence of counsellors and mentors among the faculty to create a balanced and

conducive learning environment. Students' academic performance would be improved when they can focus better and are able to overcome stressful situations. The university administration should take appropriate steps as needed based on the expectations and feedback from students. In conclusion, if counsellors, family members, friends and even colleagues play their role in being more understanding, it would be a great deal of aid to medical students when dealing with stress as they are aware of the sources that they can rely on when needed. Our results also emphasize the need for further study, particularly in the form of longitudinal follow-up.

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### **Author Contributions**

MAI was involved in the concept and design of the study as well as in the writing of the manuscript. LWW supervised the development of work while MR, VYYL, SSR and LKZ collected the data and performed data analysis. All authors read and approved the final manuscript.

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### **Conflict of Interest Statement**

We state that any financial and personal relationships with other people or organizations that could inappropriately influence our work are NONE.

### **Ethical declarations**

All participants in the study were informed about the study purpose and voluntary consent was taken. Each medical student who participated in the study was ensured the confidentiality of the responses. IMU Joint-Committee on Research and Ethics approved this study (Number: CSc/Sem6(09)2020, dated: 11<sup>th</sup> May 2020).

### **Declaration**

The authors declare that they are responsible for the article's content including study design, data collection, analysis and interpretation, writing, some of the main line, or all the preparation and review of the contents and approval of the final version of the articles.

### **Data and materials availability**

All data associated with this study are present in the paper.

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